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PPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,067	07/07/2000	Joel Naumann	CISCO-2390 ·	6900
759	90 05/27/2004		EXAMINER	
Timothy A. Brisson			KADING, JOSHUA A	
Sierra Patent Group, Ltd. P. O. Box 6149 Stateline, NV 89449			ART UNIT	PAPER NUMBER
			2661	3
			DATE MAILED: 05/27/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)			
	09/612,067	NAUMANN, JOEL			
Office Action Summary	Examiner	Art Unit			
	Joshua Kading	2661			
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address			
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may a reply be time within the statutory minimum of thirty (30) days fill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONEI	nety filed s will be considered timely. the mailing date of this communication. O (35 U.S.C. § 133).			
Status					
1) Responsive to communication(s) filed on 22 M	<u>arch 2004</u> .				
2a) ☐ This action is FINAL . 2b) ☒ This	This action is FINAL. 2b)⊠ This action is non-final.				
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
closed in accordance with the practice under E	x parte Quayle, 1935 C.D. 11, 45	3 O.G. 213.			
Disposition of Claims					
4)⊠ Claim(s) <u>1,3-10 and 12-24</u> is/are pending in the application.					
4a) Of the above claim(s) is/are withdrawn from consideration.					
5) Claim(s) is/are allowed.					
6)⊠ Claim(s) <u>1,3-10 and 12-24</u> is/are rejected.					
7) Claim(s) is/are objected to.					
8) Claim(s) are subject to restriction and/or	r election requirement.				
Application Papers		,			
9) The specification is objected to by the Examine	r.				
10)⊠ The drawing(s) filed on <u>24 November 2003</u> is/are: a)⊠ accepted or b)⊡ objected to by the Examiner.					
Applicant may not request that any objection to the	•				
Replacement drawing sheet(s) including the correcting 11) The oath or declaration is objected to by the Ex	, , , , ,				
Priority under 35 U.S.C. § 119					
12) ☐ Acknowledgment is made of a claim for foreign a) ☐ All b) ☐ Some * c) ☐ None of:	priority under 35 U.S.C. § 119(a)	-(d) or (f).			
1.☐ Certified copies of the priority documents	s have been received.				
2. Certified copies of the priority documents	s have been received in Application	on No			
Copies of the certified copies of the prior	ity documents have been receive	d in this National Stage			
application from the International Bureau					
* See the attached detailed Office action for a list	of the certified copies not receive	d.			
Attachment(s) 1) Notice of References Cited (PTO-892)	4) 🔲 Interview Summary	(PTO 413)			
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Da	te			
Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	5) Notice of Informal Pa	atent Application (PTO-152)			
S. Patent and Trademark Office					

Art Unit: 2661

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1, 3-10, 12-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art in view of Bontemps et al. (U.S. Patent 5,923,663).

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In regards to claim 1, applicant's admitted prior art discloses "a communication system having a router, said router having a PCI-compliant front card, said front card begin configured to accept a LAN or WAN compliant back card, a method for detecting the absence of a Phy Layer device on the back card and communicating said absence to the front card, said method comprising:

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receiving, by...the front card, a sensing signal from the back card (Specification, page 3, lines 2-14)..."

However, applicant's admitted prior art fails to teach "... a switching input of a tristate buffer..." and "if said sensing signal is a logical low, then coupling a IDSEL signal corresponding to a particular channel of said back card to said front card; and if said sensing signal is not low, then decoupling said IDSEL signal from said front card and providing a logical low signal in the place of said IDSEL line."

Art Unit: 2661

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Page 3

Bontemps however, discloses "... a switching input of a tri-state buffer (figure 2, element 222 and figure 4 where element 222 is the function equivalent of the tri-state buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11, lines 25-38)..." and "if said sensing signal is a logical low, then coupling a IDSEL signal corresponding to a particular channel of said back card to said front card; and if said sensing signal is not low, then decoupling said IDSEL signal from said front card and providing a logical low signal in the place of said IDSEL line (col. 11, lines 25-38; it is noted that although Bontemps does not disclose the sensing signal to be low when the select signal is coupled, it is a matter of design choice how the sensing signal is interpreted because there are only two states and if one state, such as low, affects the response of coupling, then the other state, in this case high, will result in the decoupling or opposite response; it is also noted that although the "toggle state" of Bontemps is not consistently providing a "logical low" in response to a given state of the sensing line, it is providing the same effect of decoupling the select line)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the "tri-state buffer" and the "coupling/decoupling of the IDSEL line" with the front and back cards of applicant's admitted prior art for the purpose of allowing detection of devices to a port. The motivation being quicker establishment of communication links through detected devices by eliminating a "trial and error" approach to appropriately connecting devices.

Art Unit: 2661

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Page 4

In regard to claim 3, applicant's admitted prior art and Bontemps disclose "the method of claim 1". However, applicant's admitted prior art lacks "said tri-state buffer further has an input and an output, said input and output being serially disposed on a IDSEL line corresponding to a particular channel." Bontemps however, further discloses "said tri-state buffer further has an input and an output, said input and output being serially disposed on a IDSEL line corresponding to a particular channel (figure 2, element 22 and figure 4, where the input and outputs of element 222 are serially disposed on a particular channel corresponding to a particular port)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the input and output of the tri-state buffer with the method of claim 1 for the same reasons and motivation as in claim 1.

In regard to claim 4, applicant's admitted prior art and Bontemps disclose "[the method] of claim 1". However, Bontemps lacks "said front card comprises and FE MAC, and said back card comprises an FE Phy." Applicant's admitted prior art however, further discloses "said front card comprises and FE MAC, and said back card comprises an FE Phy (figure 1, elements 100 and 101)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the FE MAC and FE Phy with the method of claim 1 for the same reasons and motivation as in claim 1.

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In regard to claim 5, applicant's admitted prior art and Bontemps disclose "[the method] of claim 4". However, Bontemps lacks "said front card and said back card are

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coupled via an MII bus." Applicant's admitted prior art however, further discloses "said front card and said back card are coupled via an MII bus (figure 2, element 114)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the MII bus with the method of claim 4 for the same reasons and motivation as in claim 4.

In regard to claim 6, applicant's admitted prior art and Bontemps disclose "[the method) of claim 1". However, applicant's admitted prior art and Bontemps lack "said front card comprises an HDLC control, and said back card comprises a T1/E1 framer [or] line interface." Although both applicant's admitted prior art and Bontemps lack "the HDLC control" and "T1/E1 framer or line interface", it would have been obvious to one with ordinary skill in the art to include these with the method of claim 1 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing HDLC control versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

In regard to claim 7, applicant's admitted prior art and Bontemps disclose "[the method] of claim 6". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus." Although both applicant's

Art Unit: 2661

admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus", it would have been obvious to one with ordinary skill in the art to include this with the method of claim 6 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a TDM bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

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In regard to claim 8, applicant's admitted prior art and Bontemps disclose "[the method] of claim 1". However, applicant's admitted prior art and Bontemps lack "said front card comprises an ATM SAR, and said back card comprises an ATM Phy."

Although both applicant's admitted prior art and Bontemps lack "the ATM SAR" and "ATM Phy", it would have been obvious to one with ordinary skill in the art to include these with the method of claim 1 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing ATM SAR versus HDLC control (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

Page 7

Application/Control Number: 09/612,067

Art Unit: 2661

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In regard to claim 9, applicant's admitted prior art and Bontemps disclose "[the method] of claim 8". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus", it would have been obvious to one with ordinary skill in the art to include this with the method of claim 8 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

In regard to claim 10, applicant's admitted prior art discloses "a communication system having a router, said router having a PCI-compliant front card, said front card begin configured to accept a LAN or WAN compliant back card, an apparatus for detecting the absence of a Phy Layer device on the back card and communicating said absence to the front card (background of specification and figures 1 and 2)…"

However, applicant's admitted prior art lacks "means for switching disposed on the front card comprising a tri-state buffer wherein said tri-state buffer has an input, an output, and a switching input wherein said input and output of said tri-state buffer being

Art Unit: 2661

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serially disposed on said front card and said switching input of said tri-state buffer is configured to be coupled to said back card; said means for switching being configured to receive a sensing signal from the back card, said sensing signal having a first and second state; said means for switching being further configured to provide a predetermined signal to said front card responsive to said state of sensing signal."

Bontemps however, discloses "means for switching disposed on the front card comprising a tri-state buffer wherein said tri-state buffer has an input, an output, and a switching input wherein said input and output of said tri-state buffer being serially disposed on said front card and said switching input of said tri-state buffer is configured to be coupled to said back card; said means for switching being configured to receive a sensing signal from the back card, said sensing signal having a first and second state; said means for switching being further configured to provide a predetermined signal to said front card responsive to said state of sensing signal (figure 2, element 222 and figure 4 where element 222 is the function equivalent of the tri-state buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11, lines 25-38)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the "tri-state buffer" with the front and back cards of applicant's admitted prior art for the purpose of allowing detection of devices to a port. The motivation being quicker establishment of communication links through detected devices by eliminating a "trial and error" approach to appropriately connecting devices.

Art Unit: 2661

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In regard to claim 12, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 10". However, Bontemps lacks "said front card comprises and FE MAC, and said back card comprises an FE Phy." Applicant's admitted prior art however, further discloses "said front card comprises and FE MAC, and said back card comprises an FE Phy (figure 1, elements 100 and 101)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the FE MAC and FE Phy with the apparatus of claim 10 for the same reasons and motivation as in claim 10.

In regard to claim 13, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 12". However, Bontemps lacks "said front card and said back card are coupled via an MII bus." Applicant's admitted prior art however, further discloses "said front card and said back card are coupled via an MII bus (figure 2, element 114)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the MII bus with the apparatus of claim 12 for the same reasons and motivation as in claim 12.

In regard to claim 14, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 10". However, applicant's admitted prior art and Bontemps lack "said front card comprises an HDLC control, and said back card comprises a T1/E1 framer [or] line interface." Although both applicant's admitted prior art and Bontemps lack "the HDLC control" and "T1/E1 framer or line interface", it would have been obvious to one with ordinary skill in the art to include these with the apparatus of claim 10 as a matter

Art Unit: 2661

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Page 10

of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing HDLC control versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

In regard to claim 15, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 14". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus", it would have been obvious to one with ordinary skill in the art to include this with the apparatus of claim 14 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a TDM bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

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In regard to claim 16, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 10". However, applicant's admitted prior art and Bontemps lack "said

Art Unit: 2661

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front card comprises an ATM SAR, and said back card comprises an ATM Phy."

Although both applicant's admitted prior art and Bontemps lack "the ATM SAR" and "ATM Phy", it would have been obvious to one with ordinary skill in the art to include these with the apparatus of claim 10 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing ATM SAR versus HDLC control (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

In regard to claim 17, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 10". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus", it would have been obvious to one with ordinary skill in the art to include this with the apparatus of claim 10 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different

Art Unit: 2661

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bus would be based on the type of network and the requirements needed for communication.

In regard to claim 18, applicant's admitted prior art discloses "an apparatus for detecting the absence of a LAN or WAN compliant device, said apparatus comprising: a PCI-compliant front card, said front card being configured to accept a LAN or WAN compliant back card (Background section of the specification and figures 1 and 2)..."

However, applicant's admitted prior art lacks "said front card further having a switch, said switch being a tri-state buffer and being serially disposed on a IDSEL connection corresponding to a particular channel on said front card, said switch being further configured to receive a sensing signal corresponding to said channel from said device by switching input of said tri-state buffer; and wherein said apparatus is configured to couple said IDSEL connection to said front card if said sensing signal is in a first state, and provide a low potential to said front card if said sensing signal is in a second state."

Bontemps however, discloses "said front card further having a switch, said switch being a tri-state buffer and being serially disposed on a IDSEL connection corresponding to a particular channel on said front card, said switch being further configured to receive a sensing signal corresponding to said channel from said device by switching input of said tri-state buffer (figure 2, element 222 and figure 4 where element 222 is the function equivalent of the tri-state buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11, lines 25-38;); and

Art Unit: 2661

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wherein said apparatus is configured to couple said IDSEL connection to said front card if said sensing signal is in a first state, and provide a low potential to said front card if said sensing signal is in a second state (col. 11, lines 25-38; it is noted that although Bontemps does not disclose the sensing signal to be low when the select signal is coupled, it is a matter of design choice how the sensing signal is interpreted because there are only two states and if one state, such as low, affects the response of coupling, then the other state, in this case high, will result in the decoupling or opposite response; it is also noted that although the "toggle state" of Bontemps is not consistently providing a "logical low" in response to a given state of the sensing line, it is providing the same effect of decoupling the select line)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the "tri-state buffer" and the "coupling of the IDSEL line" with the front and back cards of applicant's admitted prior art for the purpose of allowing detection of devices to a port. The motivation being quicker establishment of communication links through detected devices by eliminating a "trial and error" approach to appropriately connecting devices.

In regard to claim 19, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 18". However, Bontemps lacks "said front card comprises and FE MAC, and said back card comprises an FE Phy." Applicant's admitted prior art however, further discloses "said front card comprises and FE MAC, and said back card comprises an FE Phy (figure 1, elements 100 and 101)." It would have been obvious to one with

Art Unit: 2661

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ordinary skill in the art at the time of invention to include the FE MAC and FE Phy with the apparatus of claim 18 for the same reasons and motivation as in claim 18.

In regard to claim 20, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 19". However, Bontemps lacks "said front card and said back card are coupled via an MII bus." Applicant's admitted prior art however, further discloses "said front card and said back card are coupled via an MII bus (figure 2, element 114)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the MII bus with the apparatus of claim 19 for the same reasons and motivation as in claim 19.

In regard to claim 21, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 20". However, applicant's admitted prior art and Bontemps lack "said front card comprises an HDLC control, and said back card comprises a T1/E1 framer [or] line interface." Although both applicant's admitted prior art and Bontemps lack "the HDLC control" and "T1/E1 framer or line interface", it would have been obvious to one with ordinary skill in the art to include these with the apparatus of claim 20 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing HDLC control versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The

Art Unit: 2661

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motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

In regard to claim 24, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 18". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus", it would have been obvious to one with ordinary skill in the art to include this with the apparatus of claim 18 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bontemps et al. in view of Frischknecht et al. (U.S. Patent 5,878,044).

Regarding claim 22, Bontemps discloses the apparatus of claim 18. However, Bontemps lacks what Frischknecht discloses, that is "said front card and said back card are coupled via a TDM bus (col. 4, lines 19-20)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the TDM bus between the back

Page 16

Application/Control Number: 09/612,067

Art Unit: 2661

card and front with the apparatus of claim 18 for the purpose of multiplexing many signals into one signal (Frischknecht, col. 1, lines 31-34). The motivation for this being that multiplexing many signals into one signal allows greater throughput than just one signal.

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Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bontemps et al. and applicant's admitted prior art as applied to claim 20 above, and further in view of Nattkemper et al. (U.S. Patent 5,953,318).

Regarding claim 23, Bontemps and applicant's admitted prior art disclose the apparatus of claim 20. However, Bontemps and applicant's admitted prior art lack what Nattkemper discloses, that is "said front card comprises an ATM SAR, and said back card comprises an ATM Phy (figure 2, elements 32 and 31)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the ATM SAR and ATM Phy with the apparatus of claim 20 for the purpose of allowing information to be transmitted and packaged using the ATM standard (Frischknecht, col. 5, lines 33-41). The motivation being that ATM provides a fast means for transmitting data.

Response to Arguments

Applicant's arguments filed 22 March 2004 have been fully considered but they are not persuasive.

Art Unit: 2661

Page 17

Applicant argues that for claim 1, claim 10, and claim 18, Bontemps does not teach "receiving, by a switching input of a tri-state buffer provided on the front card..." because Bontemps teaches the tri-state buffer is on the "back card" as taken in the context of applicant's invention. Examiner respectfully disagrees. Although Bontemps may describe a tri-state buffer that is on a "back card" as defined in applicant's invention, the rejection is not applied by assuming that the tri-state buffer is on a "back card". The rejection is meant to show that it would have been obvious to one with ordinary skill in the art to have a tri-state buffer on a card (front or back) to allow for switching of the inputs. The achieved results of the tri-state buffer are the same for front and back cards and thus the decision to put the tri-state buffer on the front card versus the back card is a matter of design choice. Therefore, Bontemps fully discloses the limitation.

The rejections for dependent claims 3-9, 16-17, and 19-24 all depend from claims 1, 10, and 18 are maintained.

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In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re*

Art Unit: 2661

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Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, support for the motivation to combine can be found in Bontemps et al., col. 3, lines 66-col. 4, lines 1-4.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joshua Kading

Examiner

Art Unit 2661

May 24, 2004

KENNETH VANDERPUYE PRIMARY EXAMINER